DART Hybrid & MCI Bus History & Information
As of June 22, 2012

30 Hybrid buses as of this date.

6 - 45' MCI D4500 buses as of this date.

Hybrid History and Details:

DART received its first two buses featuring hybrid-electric technology in the fall of 2004. These are buses #111 & 112.

To help promote their operating efficiency and clean air qualities both buses were fully wrapped in a design reflecting blue skies and Delaware post card images. In the summer of 2009, one of these two hybrids (#112) was rewrapped in a commercial ad design for Horizon Services.

Three more hybrid buses were delivered to DART in late 2007. Though not fully wrapped, each of these buses features a headliner message promoting the fact that they are powered by hybrid-electric technology. These are buses #113, 114 & 115.

In the fall of 2008 DART received ten more hybrids (#141 through 150). Two of these buses, #149 and #150, are classified as Bus Rapid Transit (BRT) vehicles designed for expanded service. Once again headliner messages promoting hybrid-electric technology were applied to each of these vehicles.

In September 2009 seven more Gillig hybrid buses (161 through 167) were added to DART's fleet. All seven of the newest hybrids are 35-foot buses as opposed to our standard 40-foot models. These seven buses were assigned to routes in Kent County.

This brought DART's hybrid bus count to 22. That number will grow in the future as Delaware has received a Federal Transit Administration (FTA) grant of $3.7 million that, along with $759,000 in state matching funds, will allow DART to add another 8 hybrid electric buses to its fleet in mid-2012. Seven of the new hybrids are 40-foot buses (#151 through #157) and will be assigned to the Monroe facility while the eighth (#168) is a 35 foot unit and will be assigned to Dover. This brings DART's total of hybrid units to 30 buses.

Even without the wraps or headliners, our hybrids are easy to spot because of the roof top hump toward the rear of the bus that houses the battery pack and additional system cooling unit.

All of DART's hybrids are built by Gillig Corporation of Hayward, California.

The basic hybrid-electric technology on DART buses consists of a highly efficient General Motors diesel engine, running on ultra low-sulphur fuel, in combination with an Allison Electric drive/transmission system.

The bus will operate in its electric mode at speeds up to 25mph. The diesel engine will then provide power solely or in combination with the electric motor as needed.

Unlike gas engine hybrids, the diesel motor keeps running when the bus is operating on electric power. The reason is that diesels can sometimes be more difficult to start quickly. When not in demand the diesel operates at low idle and continues to generate electricity.

It is estimated that hybrid buses can increase fuel economy by as much as 60%, reduce particulates, hydrocarbon and carbon emissions by up to 90%, as well as releasing 60% fewer oxides of nitrogen than older diesel vehicles.

Somewhat surprisingly hybrid-electric technology provides 50% better acceleration when starting from a stop or lower speed, because electric motors deliver more torque than internal combustion engines, therefore drivers are trained to accelerate more cautiously when leaving a bus stop.

Due to the smaller diesel motor and the use of an electric motor, hybrid buses are quieter than standard transit vehicles. The additional weight of the battery pack and supplemental cooling unit also provides a slightly better ride quality.

We have also added five Ford Escape hybrid SUVs to be driven by DART street supervisors and management staff.

In addition to our investments in hybrid vehicles, please keep in mind that with every new vehicle DART adds to its fleet, we increase the safety, convenience, fuel efficiency and environmental benefits of our services. DART was well ahead of the curve when implementing the EPA mandates requiring Ultra Low Sulfur Fuel in all of our buses. And all of our newest buses reduce emissions in the engine cylinders by making use of advanced EGR (Engine Gas Reduction) system and the latest clean exhaust technologies. In fact, the most recent additions to the fleet are among the cleanest & greenest vehicles per passenger mile on the road. The new fluted exhaust outlet makes them very easy to identify.

In addition DART replaced six of its 40-foot MCI coaches with new 45' MCI D4500 (#914 – 919) in March of 2012. These units will serve routes 301 and 305.

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